

Application No.: 09/240,632

Docket No.: 20402-00568-US

REMARKS

Claims 1, 3-13, 33, 37-39, 42-44, 46, 59, 51, 53-55 and 57-73 are pending in the application. Claims 60-73 are withdrawn from reconsideration. Favorable reconsideration of the application is requested.

Claims 60-73 are subject to a restriction requirement. The undersigned consents to cancellation of claims 60-73 upon allowance of the remaining claims.

Withdrawal of the objections to claims 33, 37 and 53-59 is requested in light of the amendments proposed herein.

Withdrawal of the rejection of claims 4, 6, 8, 10 and 12 under 35 U.S.C. § 112 is requested. Claim 4 has been amended to depend on claim 3, and allowance of the claim is believed to be in order.

Withdrawal of the rejection of claims 38-40, 42-47, 49, 51 and 53-58 rejected under 35 U.S.C. § 102(b) as being anticipated by Seki et al. (EP 0734132 A2) is requested. Claims 38 and 49 have been amended to avoid the recitation that the first symbol is demodulated by using the second symbol as a pilot signal and by making it clear that the second modulation signal is used to demodulate the first modulation signal to estimate either the channel distortion, or a frequency offset of a first modulation signal. The amendments to the claims support the Applicants previous arguments that the references fail to show certain features of the Applicants invention, namely the demodulation of the first signal does not utilize any reference symbols, but rather is accomplished through the second information carrying modulation signal.

The second modulation signal is necessary for demodulation, and only the second modulation signals is needed to estimate the frequency offset and/or channel distortion of the first modulation signal. Amended claims 38 and 49 are believed to more clearly identify this distinction. Further, since the second modulation signal and the second quadrature baseband signal are not a true pilot signal, claims 38 and 49 have been amended to delete this recitation.

Application No.: 09/240,632

Docket No.: 20402-00568-US

Accordingly, the remarks contained in the previous Response submitted by the undersigned, that the current invention demodulates the first signal using a QPSK symbol which carries information, and is not strictly a reference signal, is repeated.

Withdrawal of the rejection of claims 48 and 59 under 35 U.S.C. § 103 as being unpatentable over Seki et al. (EP 0734132 A2) is requested. Claim 48 depends upon claim 38 which is believed to be allowable for the foregoing reasons.

Claim 59 is similarly dependent upon claim 49, which has been amended to indicate that the frequency offset and channel distortion of a first quadrature baseband signal is estimated using the second quadrature baseband signal which is also used to demodulate the first quadrature baseband signal. Accordingly, claim 59 is believed to be allowable.

Withdrawal of the rejection of claims 49, 53-55 and 57-59 which are rejected under 35 U.S.C. §103(a) as being unpatentable over Furuya (U.S. Pat. No. 5,577,087) in view of Alamouti et al. (U.S. Pat. No. 5,933,421) is requested. As was noted with respect to the previous rejection of claim 49, a second modulation signal is used to demodulate the first signal, as well as to estimate the frequency offset and channel distortion signal of the first signal.

In reviewing Furuya (U.S. Pat. No. 5,577,087), it is not seen where these functions are carried out by a second modulation signal.

Turning to the Alamouti et al. (U.S. Pat. No. 5,933,421) reference, it does not appear that there is any estimation of frequency offset or channel distortion provided by a second modulation signal. Accordingly, it is not seen how Alamouti et al. (U.S. Pat. No. 5,933,421) when combined with Furuya (U.S. Pat. No. 5,577,087) would yield or suggest this result.

Withdrawal of the rejection of claim 51 under 35 U.S.C. § 103 as being unpatentable over Furuya (U.S. Pat. No. 5,577,087) in view of Alamouti et al. (U.S. Pat. No. 5,933,421) as applied to claim 49, further in view of Wong (U.S. Pat. No. 5,027,372) is requested. Claim 51 is dependent on claim 49 and carries all the limitations thereof. Accordingly, it is believed that claim 51 is also allowable in light of those limitations.

Application No.: 09/240,632

Docket No.: 20402-00568-US

In view of the foregoing favorable reconsideration is believed to be in order.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 20402-00568-US from which the undersigned is authorized to draw.

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Respectfully submitted,

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